

ABSTRACT OF THE DISCLOSURE

A control system for remotely actuating a laser processing head includes a laser processing head and an actuation mechanism located remotely from the laser processing head. A translation mechanism is connected between the laser processing head and the actuation mechanism. The translation mechanism translates movement of the actuation mechanism into movement of the laser processing head. The translation mechanism includes a cable control having a first end coupled to the laser processing head and a second end coupled to the actuation mechanism. The laser processing head is slidably coupled to a robot arm. The actuation mechanism imposes relative linear motion of the laser processing head with respect to the robot arm. A height sensing system includes a height sensor for generating a height signal based on a measurement between the laser processing head and a work-piece. A height sensor electronics module is located remotely from the height sensor and receives the height signal.